FOREST ANALYSIS BRANCH

Interim Guidelines for the Preparation of Socio-Economic Assessments for Timber Supply Reviews

October 2003

106-01668/

Table of Contents

A. GENERAL DESCRIPTION OF A SOCIO-ECONOMIC ASSESSMENT 3

SOCIO-ECONOMIC ASSESSMENT OPTIONS 3

B. COMPONENTS AND REQUIREMENTS OF A SOCIO-ECONOMIC ASSESSMENT 3

SEA REPORT OUTLINE 4
REPORT LENGTH 4

C. DATA REQUIREMENTS AND SOURCES 4

PREPARATION OF EMPLOYMENT COEFFICIENTS 5
CALCULATING INDIRECT AND INDUCED EMPLOYMENT 6

APPENDIX 1 — DETAILED OUTLINE 8

A. General Description of a Socio-Economic Assessment

Socio-economic assessments (SEAs) contribute to the allowable annual cut (AAC) decision-making process by providing the chief forester with a socio-economic profile of the timber supply area (TSA) and an understanding of the potential socio-economic implications of changes in the timber supply. The purpose of the procedures outlined in this report is to provide a guide for the preparation of assessments that fulfil the requirements of Section 8(8) of the *Forest Act*. The Economics and Trade Branch (ETB) of the Ministry of Forests is responsible for the standards and acceptance of the final socio-economic assessments.

The following guidelines outline the minimum requirements for completing socio-economic assessments as part of the provincial timber supply review (TSR) program. While additional work and analysis may be undertaken, it is not essential for TSR purposes and hence lengthy reports are not necessary.

Socio-economic assessment options

The amount of detailed information required for the socio-economic assessments will vary depending on the base case forecast for the timber supply analysis. The range of options (1 – 4) is presented below, followed by a more detailed description of the components and requirements. For example, a more in-depth assessment (option 4) will be required where there are immediate changes in the base case forecast.

Option 1: if the chief forester postpones the AAC determination, then a socio-economic assessment will not be required for the current timber supply review.

Option 2: if a decrease or increase in the timber supply is projected after two decades, or if no change is projected (even-flow), then a short profile of the TSA is sufficient.

Option 3: if a decrease or increase in the timber supply is projected after the first decade, a profile of the TSA and the local forestry industry is necessary. Depending on sensitivity analysis and the potential risk of an earlier decline (i.e.– the first decade), then an in-depth analysis (option 4) may also be required.

Option 4: if an immediate decrease or increase in the timber supply is projected, i.e. - within the first decade of the forecast, then an in-depth SEA is required.

B. Components and Requirements of a Socio-Economic Assessment

The following outline (Appendix 1 contains more details) presents the components for an in-depth assessment as required for Option 4 above. As Options 1-3 are just subsets of the in-depth Option 4, specific components required for each option are indicated in brackets. An example of an in-depth assessment (Option 4) completed for the Golden Timber Supply Area for TSR-3 is at:
http://www.for.gov.bc.ca/hts/tsa/tsa07/tsr3/analysis.pdf

SEA report outline

1. Introduction: this section provides a short introduction and brief description of what follows in the document, similar to the TSR-2 SEAs (required for Options 1-4);
2. TSA profile: includes population and demographic trends, labour force and dependency information, and an indication of the current trends in the regional economy. Again, this section is similar to the one provided in TSR-2 SEAs (required for Options 1-4);
3. TSA forest industry profile: includes a table outlining the allowable annual cut, apportionment and recent harvest history; and a short description of the major licensees, processing facilities and associated employment. This section should also explain any significant differences between the AAC and recent annual harvest rates. This section will be less detailed than TSR-2 SEAs (required for Options 3-4);
4. Socio-economic implications: this section will include a table presenting the employment coefficients, incomes, and government revenues used to forecast potential changes in local and provincial employment, income and government revenues. It will also include a one-page impacts-table similar to the one used in TSR-2 SEAs, followed by a short discussion of the community implications as they relate to the profile trends outlined earlier in the report (required for Option 4 — possibly Option 3 if sensitivity analysis or uncertainty warrants);
5. Appendix: this section should include background information and definitions, as well as important details regarding the derivations of coefficients and multipliers applied in the assessment. This section will be less detailed than TSR-2 SEAs. (required for Options 3-4).

Report length

An in-depth Option 4 assessment should be approximately 10 pages, not including appendices. Thus the SEA will be a concise document providing brief interpretation of the data and trends.

C. Data Requirements and Sources

A variety of data is used in the preparation of SEAs. While it is hoped that licensees will use updated SEA data, such as employment coefficients and fibre flow information, the data from the previous TSRs will be available on the ETB website (http://www.for.gov.bc.ca/het/). Other SEA profile data will also be available on the ETB and other Ministry of Forests websites (http://www.for.gov.bc.ca/), or BC Stats (http://www.bcstats.gov.bc.ca/).

The data required for the SEAs includes:

- Population estimates — past, current, and future projections (5-10 years past and future trends). BC Stats and Census of Canada provide data, which will be posted on the Ministry of Forests ETB website.
- Labour force data and local area dependency measures. The most recent data available for forest districts will be available on the ETB website and additional labour force trend information may be obtained from BC Stats.
- Allowable annual cut and apportionment by licence-type. AAC data for timber supply areas is available on the Resource Tenures and Engineering Branch website (http://www.for.gov.bc.ca/hth/). A link to this information will be available on the ETB website.
- Five-year TSA harvest history. Timber supply area harvest data for the three previous calendar years will be available on the Revenue Branch website (http://www.for.gov.bc.ca/hva/). More recent TSA level data may be obtained from the Revenue Branch if necessary.
- Provincial and TSA forestry employment data, including logging and forestry services, silviculture, and processing. Licensees should collect this information. If data is not available, the provincial and TSA employment coefficients from the previous TSR will be available on the ETB website. Any significant changes to harvesting or processing activity should be reflected in the coefficients used in the analysis.
- Provincial and TSA forestry income. This data should be available from the licensees involved in the preparation of the timber supply analysis for the TSA. Average provincial income rates are available on the BC Stats website and can be used as estimates of income.
- Provincial government revenues, including stumpage, other forest industry taxes and income taxes. Links to average stumpage rates are available on the Revenue Branch website. Average industry taxes and income taxes will be the responsibility of the licensees.

Preparation of employment coefficients

Employment coefficients indicate the employment supported by the TSA harvest and are expressed in terms of person-years per 1000 cubic metres of timber harvested from the TSA. It is important that the person-year estimate used in the numerator is specifically related to the volume estimate used in the denominator that is, that the employment is related to timber harvested within the TSA over the same period of time.

Employment or jobs should be converted into person-years of employment. A person-year is defined as a job lasting at least 180 days per year. Only jobs lasting less than 180 days should be converted based on the 180 days basis. Jobs lasting over 180 days, for example a mill job lasting 270 days per year, should be considered one

person-year and not converted to 1.5 person-years. This provides a closer estimation to actual jobs when impacts are estimated.

Employment coefficients are calculated at the TSA and provincial level, as follows:

TSA employment: includes only those employees who reside within the TSA. For harvesting, forestry services and silviculture employment, only those who reside within the TSA and are supported by the TSA land base should be included in the coefficient. Those who reside in the TSA but who work on local tree farm licences, private lands, other non-TSA lands, or other TSAs should not be included in the TSA coefficient.

For processing, the total number of people employed in mills operating within the TSA should be prorated by:

1. the proportion of those workers who reside within the TSA, and
2. the proportion of TSA timber processed at the mill.

Provincial employment: provincial employment coefficients are comprised of TSA level employment, as discussed above, ***plus*** those who live or work outside the TSA but who are supported by TSA harvested timber. These include:

1. harvesting, silviculture and processing employees who reside outside the TSA but come to work within the TSA, and
2. those who rely on TSA timber that is processed in mills located outside the TSA.

Establishing the TSA and provincial coefficients relies on accurate fibre flow information. It will be necessary to establish where the timber harvested from the TSA is processed in order to identify the processing employment supported within and outside the TSA.

Employment coefficients are very sensitive to the volume estimate used in the denominator so it is important to match the employment figure with the appropriate harvest rate. For example, in TSR-2 employment figures were gathered for the latest three years. This figure was then used with harvest rates for the same three-year period.

Employment coefficients for the previous timber supply review SEAs will be available on the ETB website to serve as a reference, or if necessary to generate employment estimates. Reports should state clearly if the previous coefficients were used for analysis purposes and any significant changes to local harvest and milling activity should be addressed.

Calculating indirect and induced employment

While there is often debate about the use of employment multipliers, the methodology used to estimate them, the timing of their calculation and their relevance to future conditions is, it is universally agreed that a multiplier effect indeed exists. One purpose of the SEAs is to provide an indication of the possible magnitude of change for a local

economy and therefore the indirect and induced spin-off effects are an important component of that information base. Growth in other sectors is likely to eventually offset forestry-related reductions; however, it is important to assist in developing an understanding of the type and magnitude of growth that may be required. Multiplier analysis provides this type of understanding.

The most recent government publications regarding multipliers for local or sub-provincial areas in BC are available on the ETB website. Updates and other information will be posted when available.

The most recent provincial level multipliers are also available on the ETB website. The use of multiplier estimates with origins from the 1970s is discouraged.

Appendix 1 — Detailed Outline

Introduction

TSA Profile

- demographic indicators;
- labour force indicators;
- dependency data;
- sectoral trends.

Forest Industry Profile

- allowable annual cut by licence type;
- harvest rates — five year volumes billed data by licence type;
- short description of licensees and mills operators.

Forestry Sector Employment Coefficients, Income and Government Revenues

- forest sector employment supported by TSA;
- direct, indirect/induced, and total employment coefficients;
- direct and indirect/induced employment income;
- government revenues.

Implications of the Base Case Harvest Forecast

- employment and income implications;
- government revenue implications;
- table of implications;
- forestry implications *versus* regional economic trends.

Summary